(Check) The Risk Factor of Online Transportation System for Female Passenger in Indonesia

by Rini Wongso

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The Risk Factor of Online Transportation System for Female Passenger in Indonesia

Surjandy
Information Systems Audit Program,
Information Systems Department,
School of Information Systems
Bina Nusantara University
Jakarta, Indonesia 11480
surjandy@binus.ac.id

Erick Fernando
Information Systems Department,
School of Information Systems
Bina Nusantara University
Jakarta, Indonesia 11480
erick.fernando001@binus.ac.id

Meyliana
Information Systems Department,
School of Information Systems
Bina Nusantara University
Jakarta, Indonesia 11480
meyliana@binus.edu

Hari Setiabudi Husni
Information Systems Audit Program,
Information Systems Department,
School of Information Systems
Bina Nusantara University
Jakarta, Indonesia 11480
hari.setiabudi@binus.ac.id

Kristianus Oktriono
Language Center,
Tourism Destination,
Faculty of Humanities
Bina Nusantara University
Jakarta, Indonesia 11480
koktriono@binus.edu

***Abstract*—Reflecting the rapid evolution in transportation, Online Transportation System is growing swiftly in Indonesia. In this line, GoJek is one of the most famous Online Transportation Companies (OTC). As this backdrop, early research reported that single female used the Online Transportation System frequently. In the other angle, passenger's safety, especially for female passenger, has become issues. In this scope, several new findings reported the victim of female passengers. From that lesson, National Police advises the OTC to perform the physiological test for the driver due to security concern. Therefore, the research explored the relationship between the risk factor of the online transportation system for female passenger. In this study, SPSS is used to find the correlation bivariate function and to explain how extent the correlation of risk factor with the passenger background is. In this frame, the research involved 408 respondents of female customer online transportation passenger. Ultimately, fourteen significant correlations are obtained between respondent background and risk factor. The significant factor found contributes to the novelty and valuable for future research.**

Keywords— passenger risk factor, female passenger risk, online transportation system risk, quantitative method, SPSS bivariate

I. INTRODUCTION

Over the last decade, Online Transportation System (OTS) penetrates in Indonesia. With this in mind, OTS brings many benefits for people in Indonesia, ranges from transportation, delivery products (food, package, document), to other features. Bearing this in mind, early research used descriptive method about the using of OTS by a single female as a passenger [1] with 80% of age between 20 to 30 years old, and the second research used Pearson correlation statistical method [2] that reported the similar result. With this viewpoint, this research bolsters other research that previously reported the university student who used the smartphone to support their social and educational activities [3], [4]. However, OTS brings a negative impact on people, especially for female passenger such as harassment[5][6][7][8]. In this respect, National Police suggests Online Transportation Company (OTC) conducting a physiological test for the driver [9]. In this vein, OTC is aware of this situation by finding the solution[10]. Recently, there is an improvement in OTS application with emergency bottom [11] in 2019. In this context, this research tries to explore the correlation between risk factor with a background of the female passenger of OTS. In this case, Gojek poses the biggest and the most famous OTC recently in Indonesia.

Thus, the explanatory research serves to solicit the relationship between factors[12][13][14] by using SPSS tools will explore how is the tension correlation among age, gender, screen width, longtime use smartphone, period of time in using online transportation with a risk factor for female passenger in OTS. In this spectrum, purpose random sampling is supported by Google form to gather data from 408 respondent. Finally, the research found 14 significant factors associated with the respondent background. The significant factors found contributed as research novelty and the significance for future research.

II. LITERATURE REVIEW

A. Online Transportation System

Online Transportation System (OTS) in Indonesia is span-new transportation technology in disruption era, where the technology is used to support the service such as for transportation, delivery order, and many other services. At this backdrop, the famous OTC company is GOJEK, as stated by KPPU[15].

B. The tension of Pearson Correlation

Table 1 exhibits the tension rating of the Pearson Correlation between factors of the value of coefficient and strength tension

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association [16]. Table I shows the strength of the relationship association between both factors.

TABLE I. STRENGTH ASSOCIATION

Coefficient Value	The strength between factors Correlation
0.1 < absolute(r) < 0.3	Small Tension Strength
0.3 < absolute(r) < 0.5	Medium Tension Strength
Absolute (r) > 0.5	Strong Tension Strength

Absolute r means the value indicates a positive level of Pearson correlation, and derived from the resulting process of SPSS correlation bivariate calculation and appeared for significant correlation value only.

III. METHOD AND DATA CHARACTERISTIC

The data collected in the research used a purposive random sampling method and google form for the supporting tools. The respondent consisted of a solely female passenger, and a valid total respondent is 408. The detail of the respondent background shown in Table II.

TABLE II. DATA CHARACTERISTIC

No	Respondent		
	Description	*#n*	*%*
1	Age (D1)		
	< 17 years	4	1,0%
	17 – 25 Years	376	92,2%
	> 26 Years	28	6,9%
2	Long Time Using Online Transportation/LUOT (D2)		
	< 3 Months	8	2.0%
	3 Months to 1 Year	20	4.9%
	"> 1 Year	380	93.1%
3	Screen Width (D3)		
	< 3"	4	1.0%
	3" – 4"	18	4,4%
	4" – 5"	144	35.3%
	5" – 6"	206	50.5%
	> 6"	36	8.8%
4	Occupation (D4)		
	Junior & Senior High Student	6	1.5%
	University Student	313	76.7%
	Employee	89	21.8%
5	Long Time use Smartphone (LUS) (D5)		
	< 6 months	37	9.1%
	7 months – 12 months	97	23.8%
	> 1 Year	274	67.2%

N = 408

A. SPSS Data Validation Test

The validation of data performed in the research used SPSS application. Furthermore, the validation process is performed by calculating and perceiving the field of correct item-total correlation (CI-TC) with the baseline that if it is greater than the Pearson r table, it means valid and vice versa.

Table III represents the detail of the validation process for each factor. The questionnaire construct is based on the early report research [17], [18].

TABLE III. DATA VALIDATION

No	Validation		
	Description	*Corrected Item-Total Correlation*	*Status Valid if > r table*
1	I believe in the security features of the online transportation application in storing my data (R1)	0.506	Valid
2	I believe in E-wallet security features (e.g., Go-Pay, OVO) that are owned by an online transportation application for transactions. (R2)	0.753	Valid
3	I believe the online transportation application is responsible for all confidential user information. (R3)	0.486	Valid
4	I believe the online transportation application will not misuse the personal information that I have. (R4)	0.668	Valid
5	I believe all the services provided by the online transportation application are guaranteed to be secure (data/user information) (R5)	0.608	Valid
6	I believe that the driver (also called the partner of the online transportation service provider) has understood the privacy policy in using personal passenger information properly. (R6)	0.682	Valid
7	I feel comfortable if the driver of online transportation arrives late. (R7)	0.251	Valid
8	I feel comfortable if the behaviour of the driver of online transportation tends to offend me a bit (for example: forcing me to top up funds). (R8)	0.530	Valid

r table = 0.098 alpha 0.05

B. Reliability data test

The reliability data test is performed before the future process of correlation bivariate. The test of data is used to check Alpha de Cronbach value (Cronbach Alpha). In this sense, data is reliable (consistent) if the Cronbach Alpha value is greater than 0.60. Following this, data can be used for the next process of correlation bivariate. The detailed calculation result of the data is shown in Table IV.

TABLE IV. DATA RELIABILITY TEST RESULT

No	Reliability Test		
	Description	*Cronbach's Alpha if Item Deleted*	*Status*
1	R1	0.818	Reliable
2	R2	0.780	Reliable
3	R3	0.819	Reliable
4	R4	0.795	Reliable
5	R5	0.804	Reliable
6	R6	0.792	Reliable
7	R7	0.851	Reliable
8	R8	0.814	Reliable

C. *Correlation Bivariate Method*

The correlation bivariate method is used to explore the correlation factor of Age/D1, LUOT/D2, Screen width/D3, occupation/D4, and LTUSP/D5 as background with risk factors.

The detailed result of correlation bivariate calculation and the strong correlation tension is exhibited in Table V and VI, respectively.

IV. RESULT AND DISCUSSION

A. *The Correlations Calculation Result*

The research revealed 14 correlations of the Pearson correlation bivariate process. There is no correlation between age(D1), and risk factors (R1, R2, R3, R4, R5, R6) found. The detail explanation can be seen in Table V.

TABLE V. PEARSON CORRELATION BIVARIATE RESULT

	D1	D2	D3	D4	D5
R1	NC	0.136** 0.006	-0.119* 0.016	NC	0.136** 0.006
R2	NC	NC	NC	0.137** 0.006	NC
R3	NC	-0.213** 0.000	NC	0.185** 0.000	-0.213** 0.000
R4	NC	-0.115* 0.020	NC	0.202** 0.000	-0.115* 0.020
R5	NC	NC	NC	NC	NC
R6	NC	NC	NC	0.136** 0.006	NC
R7	NC	NC	NC	0.117* 0.018	NC
R8	NC	0.111* 0.025	NC	NC	0.111* 0.025

* significant alpha 0.05 (95%), ** significant alpha 0.01 (99%)
NC is No Significant Correlation

B. *Correlation Strength Tension*

This part described the correlation strength tension between factors. In this frame, Cohen's formula stated that small strength tension is indicated by absolute r value that is below 0.3/ <0.3. The medium strength tension is indicated by absolute r-value in between 0.3 and 0.5. The strong tension correlation is denoted by absolute r value above 0.5/> 0.5. Table VI represented the detail tension correlation results.

TABLE VI. TENSION CORRELATION RESULT

No	Correlation	Abs(r) | r|	Correlation Status	$\|r\|^2$	%
1	D2 R1	0.136	Small	0.018	1.8%
2	D2 R3	0.213	Small	0.045	4.5%
3	D2 R4	0.115	Small	0.013	1.3%
4	D2 R8	0.111	Small	0.012	1,2%
5	D3 R1	0.119	Small	0.014	1.4%
6	D4 R2	0.137	Small	0.019	1.9%
7	D4 R3	0.185	Small	0.034	3.4%
8	D4 R4	0.202	Small	0.041	4.1%
9	D4 R6	0.136	Small	0.018	1.8%
10	D4 R7	0.117	Small	0.014	1.4%
11	D5 R1	0.136	Small	0.018	1.8%
12	D5 R3	0.213	Small	0.045	4.5%
13	D5 R4	0.115	Small	0.013	1.3%
14	D5 R8	0.111	Small	0.012	1.2%

The result indicates that all the tension of the correlation between factor is small strength tension of correlation. In this line, the absolute r value is below 0.3 and the influence is below 5%.

C. *Result*

The research result of the calculation based on the Pearson correlation in Table V can be translated in the following statement

1) Age(D1) factor has no significant correlation with any risk factors.

2) The longtime use online transportation (LUOT)(D2) factor has four significant factors correlation found.

a) LUOT(D2) with believing with application security features of storing passenger data(R1).

The calculation result of Pearson correlation value is 0.136 and 0.006 with alpha 0.01(99%) that symbolized a minor tension of correlation between factors. It means that the longer time female passenger uses the online transportations, one tends to believe the security features of OTS and keep safe the passenger information. On the other hand, for the new female passenger that use OTS, one tends to less believe of security features of OTS.

b) LUOT(D2) with believe with OTC will responsible for passenger confidential information(R3)

The calculation result of Pearson correlation value is -0.213 (minus) and 0.000 with alpha 0.01(99%). It shows the minor tension of correlation between factors. In this scope, the longer time female passenger uses the online transportations, one tends not to believe that OTC will be responsible for

confidential passenger information and new female passenger of OTS tends to less believe of OTC.

c) LUOT(D2) with believing that OTC will not misuse the passenger confidential information(R4)

The calculation result of Pearson correlation value is -0.115 (minus), and 0.020 (<0.05) alpha 0.05(95%). It shows the minor tension of correlation between factors. It means the longer time female passenger use the online transportations; one tends not to believe the OTC will not misuse the passenger confidential information.

d) LUOT(D2) with comfortable with driver behaviour that tends to offend me(R8).

The calculation result of Pearson correlation value is 0.111 and 0.025 (<0.05) alpha 0.05(95%). It shows the minor tension of correlation between factors. It means that the longer time female passenger uses the online transportations, one tends to feel comfortable with driver behaviour that sometimes offends (understand).

3) The screen width (D3) has a significant correlation found with belief with application security features of storing passenger data(R1)

The calculation result of Pearson correlation value is -0.119 (minus) and 0.016 (<0.05) with alpha 0.05 (95%). It shows the minor tension of correlation between factors. It means the larger screen size of a smartphone; female passenger tends to not believe with applications security features of storing passenger data.

4) Occupation passenger background(D4) factor has five significant factors correlation found.

a) Occupation(D4) factor with believes in e-wallet application security features(R2).

The calculation result of Pearson correlation value is 0.137 and 0.006 (<0.05) with alpha 0.01 (99%). It shows the minor tension of correlation between factors. It means the higher level of occupation (university or office staff), one tends to believe with e-wallet applications security feature.

b) Occupation(D4) with believing that OTC will be responsible for passenger confidential information(R3)

The calculation result of Pearson correlation value is 0.185 and 0.000 (<0.05) with alpha 0.01 (99%). It shows the minor tension of correlation between factors. It means that the higher level of occupation (university or office staff), one tends to believe with e-wallet applications security feature.

c) Occupation (D4) with believing that OTC will not misuse the passenger confidential information(R4).

The calculation result of Pearson correlation value is 0.202 and 0.000 (<0.05) with alpha 0.01 (99%). It shows the minor tension of correlation between factors. It means that the female university passenger and office employee staff tend to believe OTC will not misuse the passenger confidential information.

d) Occupation (D4) with believing that the driver understood the privacy policy of confidential passenger information(R6).

The calculation result of Pearson correlation value is 0.136 and 0.006 (<0.05) with alpha 0.01 (99%). It shows the minor tension of correlation between factors. It means that the female university passenger and office employee staff tend to believe that driver understand company policy and procedure of confidential passenger information.

e) Occupation (D4) with feeling comfortable with the late driver(R7).

The calculation result of Pearson correlation value is 0.117 and 0.018 (<0.05) with alpha 0.05 (95%). It shows the minor tension of correlation between factors. It means that the female university passenger and office employee staff tend to tolerance with the late driver.

5) Long time use smartphone/LUS(D5) factor has four significant factors correlation found.

a) LUS(D5) with believing with application security features of storing passenger data(R1).

The calculation result of Pearson correlation value is 0.136 and 0.006 (<0.05) with alpha 0.01 (99%). It shows the minor tension of correlation between factors. It means that the longer time to use the smartphone of a female passenger, one tends to believe the applications security feature.

b) LUS(D5) with believing that OTC will be responsible for passenger confidential information(R3).

The calculation result of Pearson correlation value is -0.203 (minus sign) and 0.000 (<0.05) with alpha 0.01 (99%). It shows the minor tension of correlation between factors. It means that the longer time to use the smartphone of a female passenger, one tends not to believe that OTC responsible for passenger confidential information.

c) LUS(D5) with believing that OTC will not misuse the passenger confidential information(R4).

The calculation result of Pearson correlation value is -0.115 (minus sign) and 0.020 (<0.05) with alpha 0.05 (95%). It shows the minor tension of correlation between factors. It means that the longer time to use the smartphone of a female passenger, one tends not to believe that OTC will not misuse the passenger confidential information or tend to believe OTC will misuse the passenger confidential information.

d) LUS(D5) with comfortable with driver behaviour that tends to offend me(R8).

The calculation result of Pearson correlation value is 0.111 and 0.025 (<0.05) with alpha 0.05 (95%). It shows the minor tension of correlation between factors. It means that the longer time to use the smartphone of a female passenger, one tends to feel comfortable with the situation where a driver tends to offend passenger (such as asking for a top up with driver).

D. Discussion

The research found about a female passenger that the long time in using OTS, she tends to tolerance to the driver even

though the late pickup, or even to offend the passenger (such as to top up with driver).

The research also found five minus Pearson correlation between factor which indicates that the longer time female passenger used OTS and the longer time she used the smartphone, she tends not to believe with the OTC and tends not to believe the OTC will not misuse the information. The smartphone screen of a wider female passenger tends not to trust the OTS application security features.

V. Conclusion

The research concludes that female OTS passenger background influences the risk factors, and the female passenger tolerated to OTS drivers. The valuable result of this research can be considered by the OTC to improve the safety of the passenger, especially for female passenger eventually.

VI. Acknowledgement

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References

[1] A. Tri Haryanto, 'Mayoritas Pengguna Go-Jek Perempuan Single', *detik.com*, 2017. [Online]. Available: https://inet.detik.com/cyberlife/d-3496233/mayoritas-pengguna-go-jek-perempuan-single. [Accessed: 17-Sep-2018].

[2] Surjandy, E. Fernando, Meyliana, I. S. Edbert, and A. M. T. Mt, 'The Safe and Trust factors of Mobile Transportation System for user behaviour in Indonesia', in *2018 International Seminar on Research of Information Technology and Intelligent Systems*, 2018, pp. 449–452.

[3] Surjandy and Julisar, 'Is social media used as social activities or academic activities? (Study for college student's subject in information technology)', in *Proceedings of 2016 International Conference on Information Management and Technology, ICIMTech 2016*, 2017, vol. 2018-Janua, no. November, pp. 130–134.

[4] Surjandy and Julisar, 'Is Social Media Used as Social Activities or Academic Activities?', in *2016 International Conference on Information Management and Technolgy (ICIMTech)*, 2016, no. November, pp. 130–134.

[5] M. Amelia R, 'Pelaku Pelecehan Penumpang Taksi Online Pakai Akun Mitra Go-Jek', *detik.com*, 2018. [Online]. Available: https://news.detik.com/berita/3865879/pelaku-pelecehan-penumpang-taksi-online-pakai-akun-mitra-go-jek. [Accessed: 17-Feb-2019].

[6] N. N. Nailufar, 'Penumpang Grab bike yang Dilecehkan Trauma Pesan Ojek Online', *Kompas.com*, 2017. [Online]. Available: https://megapolitan.kompas.com/read/2017/05/17/16451131/penumpang.grabbike.yang.dilecehkan.trauma.pesan.ojek.online. [Accessed: 14-Jan-2019].

[7] D. A. Griffith, P. van Esch, and M. Trittenbach, 'Investigating the mediating effect of Uber's sexual harassment case on its brand: Does it matter?', *J. Retail. Consum. Serv.*, vol. 43, no. October 2017, pp. 111–118, 2018.

[8] Foley & Lardner, 'Top Legal Issues Facing the Automotive Industry in 2018', p. 33, 2017.

[9] mik, 'Polisi Kritisi Mental Pengemudi Ojol, Harus Ada Tes Psikologi', *CNN Indonesia*, 2018. [Online]. Available: https://www.cnnindonesia.com/teknologi/20180809005100-384-320739/polisi-kritisi-mental-pengemudi-ojol-harus-ada-tes-psikologi. [Accessed: 10-Feb-2019].

[10] Y. Riadi, 'Gojek Cari Solusi Untuk Kenyamanan Pengemudi dan Penumpang - Selular.ID', *Selular.ID*, 2018. [Online]. Available: https://selular.id/2018/07/gojek-cari-solusi-untuk-kenyamanan-pengemudi-dan-penumpang/. [Accessed: 10-Feb-2019].

[11] M. Choirul Anwar, 'Demi Keamanan, Go-Jek Tambah Fitur Tombol Darurat', *www.cnbcindonesia.com*, 2019. [Online]. Available: https://www.cnbcindonesia.com/fintech/20190315125130-37-60883/demi-keamanan-go-jek-tambah-fitur-tombol-darurat. [Accessed: 27-Apr-2019].

[12] H. Oppewal, 'Causal Research', in *Wiley International Encyclopedia of Marketing*, Chichester, UK: John Wiley & Sons, Ltd, 2010.

[13] 'What is causal research? definition and meaning - BusinessDictionary.com', *businessdictionary.com*. [Online]. Available: http://www.businessdictionary.com/definition/causal-research.html. [Accessed: 25-Mar-2019].

[14] DJS Research Ltd, 'What is Causal Research?', *www.marketresearch.net*, 2006. [Online]. Available: http://www.marketresearchworld.net/content/view/799/64/. [Accessed: 25-Mar-2019].

[15] A. Fida Rahman, 'Dibilang Kalah Jauh dari Go-Jek, Ini Komentar Grab', *detik.com*, 2018. [Online]. Available: https://inet.detik.com/business/d-4200921/dibilang-kalah-jauh-dari-go-jek-ini-komentar-grab. [Accessed: 10-Feb-2019].

[16] J. Cohen, *Statistical Power Analysis for the Behavioral Sciences*, 2nd ed. Routledge, 2013.

[17] C. Jensen, C. Potts, and C. Jensen, 'Privacy practices of Internet users: Self-reports versus observed behaviour', *Int. J. Hum. Comput. Stud.*, vol. 63, no. 1–2, pp. 203–227, 2005.

[18] J. Fogel and E. Nehmad, 'Internet social network communities: Risk-taking, trust, and privacy concerns', *Comput. Human Behav.*, vol. 25, no. 1, pp. 153–160, 2009.

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